CHAPTER III

METHOD OF THE RESEARCH

A. The Research Design

The research design is a quasi experiment. Quasi experiments are experimental situations in which the researcher assigns, but not randomly, for the experiment.[1] The research design used Non-equivalent control group design, there were two groups: an experimental group and a control group. Before doing the experiment, the students were be given a pre-test. The experimental group was given treatment and the control group was not given the treatment. After the treatment, the students are given a post-test.[2]

The most purpose of experimental research is to determine whether a particular approach or way of doing something different is "better" than a more traditional approach that has served as the standard practice. This research consisted of two variables; the independent variable was symbolized by "X" that is Exclusion Brainstorming Strategy and dependent one was "Y" which refered to students' reading comprehension of the second year at SMA IT Bangkinang.

According to Gay, the design of this research can be illustrated as follows:[3]

Table III. 1
The Research Design

Group	Pre-test	Treatment	Post –test
A	T1	√	T2

[1]John W. Creswell, Op cit, p. 645.
[2] L.R Gay and Peter Airasian, *Educational Research: Competencies for Analysis & Aplication, Sixth Edition* (New Jersey: Pearson Education International, 20[illegible] 625.
[3] Ibid, p. 627.

B	T2	X	T2

Where :

A = Experimental Group

B = Control Group

T1 = Pre=test to Experimental Group and Control Group

√ = Receiving Particular Treatment

X = without particular treatment

T2 = Post-test for Experimental Group and Control Group

B. Location and Time of the research

This research was conducted on the second year students of SMA IT Ridan Permai, Bangkinang and time was from September to October 2013.

C. The Subject and Object of the Research

The subject of the research was the second year students of SMA IT Bangkinang, and the object of this research was the effect of using Exclusion Brainstorming strategy toward students' reading comprehension in Narrative text.

D. The Population and the sample of the Research

The population of this research was the second year students of SMA IT Bangkinang. The total number of the second year students was 105. They consisted of 4 classes: 2 IPA A (27), 2 IPA B (27), 2 IPS A (25), 2 IPS B (26). In this research, the writer used a quasi-experimental research; the writer took two classes only. They were class 2 IPA A and 2 IPA B.

In determining the sample of the research, the writer used cluster random sampling because the population was large. To decide which one of the population which would be taken as sample, the sample was taken based on the population that was specified. This was done by using clustering random sampling because the students were already formed into class. According to Gay, this technique randomly selected groups, not individual and all the members selected groups have similar characteristics[4].

Tabel III. 2
Total Population at the Second Year
Students of SMA IT Bangkinang 2012-2013

No	Classes	Population		Total
		Female	Male	
1	2 IPA A	10	17	27
2	2 IPA B	15	12	27
3	2 IPS A	12	13	25
4	2 IPS B	15	11	26
Total Population				105

Table III. 3

Total sample of the second year students at SMA IT Bangkinang

No	Classes	Population		Total
		Female	Male	
1	2 IPA A	10	17	27
2	2 IPA B	15	12	27
Total sample				54

E. The technique of Data Collection

[4] *Op.Cit. Educational Research: Competencies for analysis and Application-6th Ed.* P. 129

In collecting the data, the writer used the techniques as folllows:

1. Test

Test was distributed to measure the students' reading comprehension in narrative text. The tests were given to students of control class and experimental class. The test was divided into two tests. They were pre-test given before treatment, and post-test were given after doing the treatment. The type of the test was multiple choice which consisted of 20 items. Every multiple choice item consisted of five answer options (a, b, c, d, e).

Aftter the students did the test, the writer then took the total score from the result of the reading comprehension test. The classification of the students' score is shown below[5]:

Table III. 4

The Classification of Students' Scores

The Score level	Category
80-100	Very good
66- 79	Good
56-65	Enough
40-55	Less
30-39	Fail

F. The Validity and Realibility of the test

1. Validity

[5] Suharsimi Arikunto, *Dasar-Dasar Evaluasi Pendidikan*, (Jakarta: PT Bumi Aksara, 2011) , 245.

Before the tests were given to the sample, both of tests had been tried out to 25 students at the second year. The purpose of try out was to obtain validity and reliability of the test. It was determined by finding the difficulty level of each item. Item difficulty was determined as the proportion of correct responses. The formula for item of difficulty is as follows:[6]

P = B/JS

Where P :Index of difficulty of facility value

B :The number of correct answer

JS :The number of examines or students taking the test.

The difficulty level of an item shows how easy or difficult a particular item in the test is. The items that do not reach the standard level of difficulty are excluding from the test and they are changed with the new items that are appropriate.

The standard level of difficulty used is >0.30 and <0.70.[7] it means that the item test is accepted if the level of difficulty is between 0.30 – 0.70 and it is rejected if the level of difficulty is below 0.30 (difficult) and over 0.70 (easy). Then, the proportion correct is represented by "p", whereas the proportion of incorrect is represented by "q". The result of item difficulty level from the test can be seen from the following table:

Table III. 5

Indicator	**Identify main idea**				N
Item no.	1	6	13	16	27
Correct	15	16	15	16	

[6] Suharsimi Arikunto. Dasar-dasar Evaluasi Pendidikan. (Jakarta: PT. Rineka Cipta, 2009). Pp
[7] Ibid. Pp.210

The students	P	**0.55**	**0.59**	**0.55**	**0.59**	
	Q	0.45	0.41	0.41	0.41	

are able to find out main idea of the narrative text

Based on the table III.5, above , the proportion of correct answer for item number **1** shows the proportion of correct **0.55**, item number **6** shows the proportion of correct **0.59**, item number 1**3** shows the proportion of correct **0.55,** and item number **16** shows the proportion of correct **0.59**. Based on the standard level of difficulty "p" <0.30 and >0.70, it is pointed out that item difficulties in average of each items number for finding main idea are accepted.

Table III. 6
The students are able to identify specific information of the text.

Indicator	**Identify specific information**				N
Item no.	5	7	14	19	27
Correct	15	14	15	14	
P	**0.55**	**0.51**	**0.55**	**0.51**	
Q	0.45	0.49	0.45	0.49	

Based on the table above , the proportion of correct answer for item number **5** shows the proportion of correct **0.55**, item number **7** shows the proportion of correct **0.51**, item number **14** shows the proportion of correct **0.55,** and item number **19** shows the proportion of correct **0.51**. Based on the standard level of difficulty "p" <0.30 and >0.70,

it is pointed out that item difficulties in average of each items number for finding specific information are accepted.

Table III. 7
The students are able to identify type of the text.

Indicator	Identify type of the text				N
Item no.	4	10	12	18	27
Correct	14	12	14	14	
P	**0.51**	**0.44**	**0.51**	**0.51**	
Q	0.49	0.56	0.49	0.49	

Based on the table above , the proportion of correct answer for item number **4** shows the proportion of correct **0.51**, item number **10** shows the proportion of correct **0.44**, item number **12** shows the proportion of correct **0.51,** and item number **18** shows the proportion of correct **0.51**. Based on the standard level of difficulty "p" <0.30 and >0.70, it is pointed out that item difficulties in average of each items number for finding type of the text are accepted.

Table III. 8
The students are able to find out the meaning of vocabulary in narrative text.

Indicator	**Find out the meaning of vocabulary**				N
Item no.	2	8	15	20	27
Correct	17	15	14	14	
P	**0.62**	**0.55**	**0.51**	**0.48**	
Q	0.38	0.45	0.49	0.52	

Based on the table above , the proportion of correct answer for item number **2** shows the proportion of correct **0.62**, item number **8** shows the proportion of correct **0.55**,

item number **15** shows the proportion of correct **0.51,** and item number **20** shows the proportion of correct **0.48**. Based on the standard level of difficulty "p" <0.30 and >0.70, it is pointed out that item difficulties in average of each items number for finding meaning of vocabulary are accepted.

Table III. 9
The students are able to find out the generic structure in narrative text.

Indicator	**Find out the generic structure**				N
Item no.	3	9	11	17	27
Correct	16	13	12	14	
P	**0.59**	**0.48**	**0.44**	**0.48**	
Q	0.41	0.52	0.56	0.52	

Based on the table above , the proportion of correct answer for item number **3** shows the proportion of correct **0.59**, item number **9** shows the proportion of correct **0.48**, item number **11** shows the proportion of correct **0.44,** and item number **17** shows the proportion of correct **0.48**. Based on the standard level of difficulty "p" <0.30 and >0.70, it is pointed out that item difficulties in average of each items number for finding meaning of vocabulary are accepted.

Based on the try out, it was determined that there were some items of test were rejected because the items were too easy and too difficult. The items rejected were item number, 1, 2, 6, 10. They had been revised.

2. Reliability

Brown says that reliability has to do with accuracy of measurement. This kind of accuracy was reflected in obtaining the similar results when measurement was repeated on different occasions or with different instruments or by different persons. The characteristics of reliability was sometimes termed consistency.[8] It Means that the test was reliable or reliability was consistent on repeated measurement.

To obtain the reliability of the test, it must be known the mean and standard deviation of test. Reliability in general refers to appropriateness of a given test of its component part as measure of what it was purposed to measure. It means the test will be valid to the extent that is measured what it is supposed to measure.

The reliability coefficients for good identified kinds of structure text and reading comprehension test were expected to exceed 0.0 and closed 1.00. Heaton states that the reliability of the test was considered as follows:

1. 0.0 – 0.20 = reliability is low
2. 0.21 – 0.40 = reliability is sufficient
3. 0.41 – 0.70 = reliability is high
4. 0.71 – 1.0 = reliability is very high

Knowing the instrument is reliable or not, the writer used KR-20 as follows:

$$r_i = \frac{k}{(k-1)}\left\{\frac{St^2 - \sum piqi}{St^2}\right\}$$

Where:

k : total items

p_i : proportion the correct scores

[8] H. Douglass Brown, *Language Assesment: Principles and Classroom Practices*. (New York: Pearson Education Inc, 2003), 19.

q_i : 1-p_i

S_t^2 : total variances

$$Xt^2 = \sum Xt^2 - \frac{(\sum Xt)^2}{n}$$

$$= 3189 - \left(\frac{291}{27}\right)^2$$

$$= 3189 - (10.77)^2$$

$$= 3189 - 116.07$$

$$= 30792.93$$

$$St^2 = \frac{xt^2}{n}$$

$$= \frac{30792.93}{27}$$

$$=113.8$$

$$r^i = \frac{k}{k-1} \quad \frac{st^2 - \sum piqi}{st^2}$$

$$= \frac{27}{26} \quad \frac{30792.92 - 4.79}{30792.92}$$

$$= 1.03 \quad \frac{30788.14}{30792.92}$$

$$= 1.03\ (0.\ 999)$$

$$= 1.028$$

Based on the result above, it can also be stated that the reliability was very high.

G. The Technique of Data Analysis

To find out whether there is a significant effect of using Exclusion Brainstorming strategy toward reading comprehension, the data were analyzed statistically. To analyze the data, the writer used the statistical calculation of independent sample T-test formula. The independent sample T-test was used to find out the significant effect of using Exclusion Brainstorming strategy toward students' reading comprehension on narrative text. The data were analyzed by using SPSS 16.0 Version.

The T-table was employed to see whether or not there was significant different between the mean score in both experimental and control groups.

Statistically hypothesis:

1. H_o = t_o < t-table
2. H_a = t_o > t-table

Criteria of hypothesis:

H_o is accepted if t_o < t-table or it can be said that there is no significant effect of using Exclusion Brainstorming strategy toward reading comprehension.

H_a is accepted if t_o > t-table or there is an difference of using Exclusion Brainstorming strategy toward reading comprehension.